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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,373	07/07/2003	Atsushi Kato	075834.00411	7415

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ROBERT J. DEPKE
LEWIS T. STEADMAN
ROCKEY, DEPKE & LYONS, LLC
SUITE 5450 SEARS TOWER
CHICAGO, IL 60606-6306

EXAMINER

BERNATZ, KEVIN M

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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11/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/614,373

Applicant(s)

KATO, ATSUSHI

Examiner

Kevin M. Bernatz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 11-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Amendment

1. Addition of claims 17 - 20, filed on September 26, 2007, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Request for Continued Examination

3. A Request for Continued Examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 26, 2007 has been entered. An action on the RCE follows.

Claim Rejections - 35 USC § 103

4. Claims 1 and 11 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP 2002-025035 A) in view of Murayama et al. (U.S. Patent No. 5,972,515) and Kato (U.S. Patent No. 6,114,057), and as evidenced by Applicants' admissions and Hashimoto et al. (U.S. Patent No. 5,458,979). See provided English language translation of JP '035 A.

Regarding claim 1, Kato et al. (JP '035 A) disclose a magnetic recording medium (*Title*) obtained by coating, on a non-magnetic support (*Paragraph 0001*), a magnetic coating material having a magnetic powder and binder dispersed in a solvent (*Paragraphs 0021 – 0024 and examples*), wherein said binder contains a polyurethane resin and a polyvinyl resin (*ibid*), a second one of the polyurethane resins being a polyurethane resin having a urethane concentration of 3.0 mmol/g or above (*Paragraphs 0021, 0022, 0027 and 0028*). Kato et al. (JP '035 A) further disclose said polyurethane resin comprising any one of metal sulfonate, tertiary amine or quaternary ammonium salt (*Paragraph 0035*) and said binder containing an aromatic isocyanate hardener (*Paragraph 0062*).

Kato et al. (JP '035 A) fail to disclose a binder that does not contain a halogen containing resin and wherein said binder contains a first aromatic polyester polyurethane resin in combination with said second polyurethane resin.

However, Murayama et al. teach a binder comprising a first aromatic polyester polyurethane resin (*col. 5, line 33 bridging col. 6, line 6*), used in combination with a second polyurethane resin, wherein Murayama et al. teach that the use of an aromatic

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polyether polyester urethane with a polyurethane resin "can provide a magnetic recording medium having a magnetic layer, having much higher strength than a magnetic layer, which has a binder where a polyurethane resin and a vinyl chloride copolymer are simultaneously used" (*col. 3, line 66 bridging col. 4, line 24*).

Furthermore, the Examiner notes that it is well known in the art that the use of halogen containing binders should be avoided to avoid head contamination issues (*Applicants' admissions – Paragraph 0017; and Hashimoto et al. – col. 3, lines 5 – 30*).

It would therefore have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the device of Kato et al. (JP '035 A) to utilize a binder containing a first aromatic polyester polyurethane and a second polyurethane meeting Applicants' claimed urethane group limitations as taught by Murayama et al. (and as evidenced by Applicants' admissions and Hashimoto et al.), since such a combination can provide a magnetic layer with higher strength and less corrosion than one including a halogen containing resin.

None of the above disclose the specifics of the aromatic polyester polyurethane resin.

However, Kato ('057) teaches an aromatic polyester polyurethane resin (*Abstract and col. 4, line 57 bridging col. 5, line 11*) meeting Applicants' claimed KOH limitations (*col. 4, lines 8 – 23*) and comprising any one of metal sulfonate, tertiary amine or quaternary ammonium salt (*col. 5, lines 12 – 36*) for use in a magnetic recording medium in order to provide improved recording characteristics and durability (*col. 2, lines 21 – 67*).

It would therefore have been obvious to one of ordinary skill in the art at the time of the Applicants' invention to modify the device of Kato et al. (JP '035 A) in view of Murayama et al. to utilize an aromatic polyester polyurethane meeting Applicants' claimed material and property limitations, since Kato ('057) teaches that such an aromatic polyester polyurethane can provide improved recording characteristics and durability to a magnetic recording medium.

Regarding claim 11, Murayama et al. teach a binder consisting of only the two polyurethane resins, wherein the aromatic polyester polyurethane is formed from aromatic components (*Abstract and col. 5, line 33 bridging col. 6, line 6*). Kato et al. (JP '035 A) disclose forming the non-aromatic polyester polyurethane in a manner meeting Applicants' claimed limitations (*Paragraph 0045*). Furthermore, regarding the limitation(s) "obtained by ... aromatic diisocyanate" (both occurrences), the Examiner notes that this limitation(s) are/(is a) process limitation(s) and is/are not further limiting in terms of the structure resulting from the claimed process. Specifically, in a product claim, as long as the prior art product meets the claimed structural limitations, the method by which the product is formed is not germane to the determination of patentability of the product unless an unobvious difference can be shown to result from the claimed process limitations.

Regarding claim 12, this claim is met for the reasons noted above with regard to claim 1.

Regarding claim 13, this claim is met for the reasons noted above with regard to claims 1 and 11, and further the Examiner notes that Kato et al. (JP '035 A) disclose

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polyurethane resins meeting Applicants' claimed method of formation – with regard to the glycol molecular weight (*Paragraph 0029*).

Regarding claim 14, this claim is met for the reasons noted above with regard to claim 1.

Regarding claims 15 and 16, Murayama et al. disclose that the non aromatic polyester polyurethane (i.e. the further limited polyurethane) should preferably possess 2 – 20 OH groups per molecule in order to insure good reactivity with the isocyanate curing agent (*col. 5, lines 7 – 14*). I.e. Murayama et al. teach that the amount of OH groups (i.e. Applicants' claimed "OH value") can be varied to effect the reactivity, durability and solubility of a polyurethane resin in a magnetic recording medium binder (*ibid*). Therefore, the Examiner deems that it would have been obvious to one having ordinary skill in the art to determine an amount of the OH value for the polyurethane resin meeting Applicants' claimed amount by optimizing the results effective variable through routine experimentation. *In re Boesch*, 205 USPQ 215 (CCPA 1980); *In re Geisler*, 116 F. 3d 1465, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Aller*, 220 F.2d, 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Regarding claims 17 – 20, Kato et al. (JP '035 A) disclose ratios of the two binder resins (*albeit one being a polyvinyl-based resin*) meeting Applicants' claimed relative ratios (*examples*). Furthermore, Murayama et al. teach ratios of the two polyurethane binders meeting Applicants' claimed limitations (*col. 6, lines 31 – 39*).

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Response to Arguments

5. The rejection of claims 1 and 11 - 20 under 35 U.S.C § 103(a) – Kato et al.

(JP '035 A) in view of various references

Applicant(s) arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

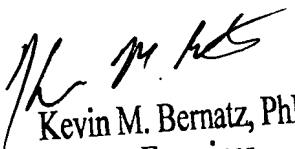
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KMB

November 25, 2007


Kevin M. Bernatz, PhD
Primary Examiner